SYNOPSIS

"DISPARITY OF IRRIGATION IN AGRICULTURAL DEVELOPMENT IN NASIK DISTRICT-A GEOGRAPHICAL ANALYSIS"

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Introduction:

Role of irrigation playing very key role in agricultural development. Some region in the world has good inputs in agriculture where as some region lacks in that sense, agricultural productivity and irrigation having positive correlation. Geographically some region receive good R Rainfall and good irrigation facilities where as some area of the world receive very scanty rainfall inspire of good soil condition, and good agricultural development potential region remains backward in terms of socio-economic development because of lack of irrigation facilities.

Global level food requirement continuously rising due to rapid population growth therefore there is urgent worldwide attention towards water resources and its proper utilization in agriculture. To considering world level food crisis and limited water resources to improve the agricultural productivity the role of efficient irrigation system and technology have greater importance in recent times.

More than 50 percent developing countries population still working in agriculture and agriculture is the backbone of their economy. Disparity in level of agricultural development is not only associated with geographical causes but also man-made causes are also.

Therefore regional imbalances become major challenging issue on global and local level also. However recent statistics shows that 777 million populations out of the world 815 million hungry people are in developing countries. in India the problem of hunger is still very severe, some part of country is agriculturally so much developed whereas some area is so much lack only due to the irrigation facilities impact.

Therefore The present study is concern within that point of view **"DISPARITY OF IRRIGATION IN AGRICULTURAL DEVELOPMENT IN NASHIK DISTRICT: A GEOGRAPHICAL ANALYSIS"** because Nasik district having very diverse physical setting from its west to east part which directly affecting the entire district agricultural landscape .Godawari is the the major river of Nashik district which is known as a south Ganaga of India.

Whereas the role of River Darna, Kadwa, Girna mosam also play the crucial role of water resources.Waghad, ozerkhed, palkhed, Gangapur Girna, chankapur, haranbhari etc dams playing important role in irrigation in the district but at the same time Tehsil like Nandgaon, Yeola, Chandwad, Malegaon and Sinner receive very scanty rainfall so most part of the these tehsils comes under rain fed area. Therefore making the best use of potential productive soil water resource management and its proper allocation in study region is prerequisite for sustainable and balanced regional development in study region.

Study Region:

Nashik district is the third largest district in Maharashtra in terms of Population of 6,109,052 and area occupying an area of 15,582 square kilometres in the north Maharashrta region. Nashik District is situated between **$18^{o}31'$ to $20^{o}53'$** North Latitude and **73^{o} 16' to 75^{o} 16'** East Longitude. It is bounded by Dhule district to the north, Jalgaon district to the east, Aurangabad district to the southeast, Ahmadnagar district to the south, Thane district to the southwest, Valsad and Navsari districts of Gujarat to the west, and the Dang district to the northwest.

The Western Ghats or Sahyadri range stretches from north to south across the western portion of the district. With the exception of the westernmost few villages, the western portion is hilly, and intersected by ravines, and only the simplest kind of cultivation is possible.

The western slope of the Ghats is drained by several rivers, including the Daman Ganga River, which drains westwards to the Arabian Sea.The larger eastern portion of the district, which lies on the Deccan Plateau, is open, fertile, and well cultivated. The Satmala-Chandwad Range, which runs east and west, forms the chief divide of the plateau region. Peninsular India's largest river Godavari originates in the district in the Trimbakeshwar Range and continues eastwards through the district.

The Satmala-Chandwad Range forms a watershed, such that, the rivers emerging to its south drain into the Godavari. These include the Kadva and Darna both of which are tributaries of the Godavari To the north of the Satmala-Chandwad Range, the Girna River and its tributary, the Mosam, flow eastward through fertile valleys into the Tapi River. The entire Nashik district is underlain by the basaltic lava flows.

These flows are normally horizontally disposed over a wide stretch and give rise to table land type of topography also known a plateau. These flows occur in layered sequences and represented by massive unit at the bottom and vesicular unit at the top of the flow. The shallow alluvial formation of recent age also occurs as narrow stretch along the banks of Godavari Rivers. The soils are the weathering products of Basalt and have various shades from gray to black, red and pink colour.

Nashik District is a noted for the mountains and hills occupying the north and north-east of its territory. These hilly ranges are eastward spurs of the Western Ghats and form prominent landmarks in the district, some noted for the shrines they harbor while others for the trekking adventures which can be undertaken while ascending the peaks. Broadly categorized, the hills can be segregated into 3 noteworthy ranges: Selbari Range which may be inclusive of the Dholbari range, alternately called Selbari-Dholbari range.

Satmala Range also called the Satmala-Ajanta range. Trimbakeshwar Range constituting the Trimbak-Anjaneri hills.

According to the census of 2011 Nashik district has a population of 6,109,052, roughly equal to the nation of El Salvador or the US state of Missouri. This gives it a ranking of 11th in India (out of a total of the district has a population density of 393 inhabitants per square kilometre (1,020/sq mi) its population growth rate over the decade 2001-2011 was 22.33%. Nashik has a sex ratio of 931 females for every 1000 males, and a literacy rate of 80.96%.The district is 75.64% urban as of 2007. Administratively, the district is divided into fifteen talukas, which are grouped into four sub-divisions:

Nashik sub division:

Dindori, Igatpuri, Nashik, NashikRoad, Peth, Trimbakeshwar,

Malegaon sub-division : Chandwad, Malegaon, Nandgaon

Niphad sub-division : Niphad, Sinnar, Yeola

Kalwan sub-division : Deola, Kalwan, Baglan (Satana), Surgana

The Nashik district is under proposal to be bifiurcated and a separate Malegaon District be carved out of existing Nashik district with the inclusion of the north eastern parts of Nashik district which include Malegaon, Nandgaon, Deola, Baglan,and Kalwan talukas in the proposed Malegaon district.

The city of Nashik is the administrative headquarters of the district. Nashik is well known for the production of wine. Nashik is also known as Mini Maharashtra, because the climate and soil conditions of Surgana, Peth, Igatpuri resembles with Konkan. Niphad, Sinnar, Dindori, Baglan blocks are like Western Maharashtra and Yeola, Nandgaon, Chandwad blocks are like Vidarbha Region. Nashik, Malegaon, Manmad, are some of the big cities situated in the Nashik District.

Objectives:

1) To study the Geographical aspects of study region.
2) To find out the causes of irrigation variability in study region
3) To analyze the Disparity of Irrigation in agricultural development in the study region.
4) To study the irrigation impact on agricultural development in study region.
5) To study the association between irrigation cropping pattern and socio-economic development in the study region.

Data Base:

The present study will be based on the data collected from primary and secondary sources.

Primary data will be collected from:

i) Primary data- Intensive field work by visiting various destinations in study region.
ii) questionnaire and interview will be applied for data collection

Secondary data will be collected from:

i) Economic survey report of Govt of Maharashtra
ii) District irrigation department
iii) Maharashtra water Resource regulatory Authority.
iv) Godavari Irrigation Development Corporation
v) District Agriculture Dept, District Gazetteer.
vi) WALMI Aurangabad,
vii) Publish & unpublished materials, News papers, other related books, research papers, Ph.D. Thesis and Govt Records.

Methodology:

i) The collected data from different primary and secondary sources will be processed and represented by different statistical and Cartographic techniques.

ii) Measurement of irrigation impact method will be applied.

Some statistical methods will be used:

A) Intensity of Irrigation & cropping both will be computed by following formula.

$$\text{Irrigation intensity index} = \frac{\text{Gross Irrigated Area}}{\text{Net Irrigated Area}} \times 100$$

$$\text{Cropping intensity Index} = \frac{\text{Gross Cropped Area}}{\text{Net Cropped Area}} \times 100$$

B) Correlation and coefficient method will be applied

C) Selection of field (Taluka) method will be applied

D) Stratified Random sampling method will be adopted for the selection of villages. Arc GIS, Global Mapper (software) and various application of remote sensing will be used for Data analysis & Preparation of various Maps.

Design and Plan of Research Work:

1st Six Months:

Reading review of literature, Preparation of Questionnaires, and start the collection data.

2nd six month:

Primary and Secondary data collection through field work and other Sources.

3rd Six month:

Preparation of the collected data from Primary and secondary Sources. Preparation of maps, charts, tables, graphs with the help of collected data.

4th Six month:

Thesis Writing, Typing and Thesis binding etc.

Chapter Scheme

Chapter-I
Introduction

Chapter one will introduce to the thesis it will begin with the introduction to study problem, Study of Nashik Sub-Division, objectives, data sources, research methodology, and review of literature.

Chapter-II
Profile of the Study Region

This chapter will describe the review of study region, location, geographical aspects of study area, physiographic, drainage system, climate, soil, and demographic profile of study region.

Chapter-III
Historical Review of Irrigation Development in Nashik District

In this chapter historical review of irrigation development in state level and regional level will be highlight.

Chapter-IV
Cropping pattern and Irrigation in Nashik District

This chapter will describe the entire study region cropping pattern and irrigation pattern.

Chapter-V
Spatio-temporal analysis of Irrigation and Agricultural development in Nashik District (1985-2014 periods)

Chapter-VI
Irrigation Disparity and Agricultural Productivity in Nasik District

This chapter will assess the agricultural productivity on the bases of irrigational pattern of study region.

Chapter-VII
Conclusion and Finding

Recommendation,Problem &Suggestion, Bibliography, Interview, Schedule, Questionnaire.

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